

TSD file



STATINTL

26 October 1960

MEMORANDUM FOR THE RECORD

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SUBJECT: Terminal Output Devices for [redacted] Stereocomparators, [redacted]

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1. Assumptions - These recommendations will be based on the hypothesis that the additional [redacted] stereocomparators currently being acquired will be equipped to record travel in the X and Y directions by generating pulse trains and counting these pulses with electronic accumulations or counters of the PIGMI or Telecordex type. When this is the case, the terminal output devices, that provide for transfer of accumulator readings to hard copy and/or machine readable form, (punched cards, punched tape, magnetic tape, etc.) can be considered almost independently of the comparator and accumulator, since the techniques of going from accumulators to the various types of output devices are quite standardized and routine. This situation is in considerable contrast to that which obtains for the TA3 currently in use, and in which the terminal output device is in very intimate association with the shaft position indicators.

2. Various Terminal Devices - Under the present circumstances, then, it would seem advisable to choose a terminal output device on the basis of its compatibility with present or future computing systems for which it will be providing input. The various output devices will be discussed from this viewpoint.

- (a) Punched card output. The 80 column [redacted] punched card is undoubtedly the most nearly universal machine readable language and it can be assumed that any new computing system will include punched card input and output. However, it would cost approximately [redacted] plus the price of the associated [redacted] equipment to add card input and output to the present [redacted] capability. This might indeed be very desirable on the basis of over-all considerations, but is probably not justified just to tie in the three [redacted]

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- (b) Punched type

- (1) Five channel [redacted] code (teletype) - This code is not read directly [redacted]

[redacted] however, read and translate by program on a character-by-character basis any five or six channel code. This programmed translation is too slow (2 characters per second) to be used other

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than for very limited input. Further, this translation capability is not common to all computers and might not be present, without special modification, on some future machine.

(2) Flexowriter wired to punch [ ] code - This output device has the drawback that modification to punch the code that might be used by some future computer would be relatively expensive and time consuming. STAT

(3) Separate tape punch with plugable coding matrices. Various tape punches are now available that permit punching any five to eight channel tape code according to the wiring of interchangeable plug-in boards. Such a device would even allow easy interchange between [ ] any future computer as destinations [ ]. The cost of this type of punch and an associated typewriter would be about the same as for a modified Flexowriter and probably only [ ] above the cost of an [ ] teletype output. STAT  
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3. Recommendations - It is thought that a separate tape punch with interchangeable code matrices, such as manufactured [ ] or equivalent, will provide the most economical and versatile output device. If necessary, a typewriter can be paired with this to provide hard copy for observation by the [ ] operator. STAT

4. Recommendations in the event that [ ] cannot be provided with the tape output device recommended above, i.e., if they have no accumulators - If, for some reason, the tape punch with interchangeable coding matrices cannot be associated with the [ ] comparators at a reasonable cost there remain two possible alternatives which should be considered: STAT

(a) If tie-in to a card punch is readily accomplished, the cost of providing card capability for the present computing facility might be approximately equal to the cost of providing accumulators, tape punches and typewriters for three [ ] comparators. STAT

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(b) If the [ ] five-channel output cannot be avoided, a special tape-to-tape converter should be purchased from a [ ] manufacturer of such equipment. [ ] is one such organization.) STAT

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